

Conference Abstract

Historical flowering phenology across a broad range of Pacific Northwest plants

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Abstract

For many species, understanding how climate influences the timing of seasonal life history events (phenology) is limited by the availability of long-term data. Further, long-term studies of plant phenology are often local in scale. Recent efforts to digitize herbarium collections make it possible to examine large numbers of specimens from multiple species over broad geographic regions. In the Pacific Northwest (PNW), understory plant species found in old-growth forests may be buffered against climate warming (Frey et al. 2016). Using 8,500 specimens of 40 plant species housed in 25 herbaria collected over more than 100 years in the PNW we analyzed whether these species have experienced shifts in flowering phenology corresponding to long-term climate warming. Our findings were mixed, with some species experiencing earlier flowering phenology over time while others have not shifted their flowering phenology since the early-1900s. Responses were dependent on life-history, including habitat preference and timing of flowering. These results demonstrate that herbarium collections are an important tool for examining long-term flowering phenological over broad geographic areas and habitat types. Further, flowering phenology does not uniformly shift in correlation with climate warming.

Keywords

Phenology, Herbarium, Pacific Northwest, Climate Change

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Conflicts of interest

None

References

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